The listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

1. (Currently Amended) A compound of formula I

in which

R<sup>1</sup> denotes (CH<sub>2</sub>)<sub>n</sub>Het, (CH<sub>2</sub>)<sub>n</sub>Ar, or cycloalkyl having 3 to 7 C atoms,

R<sup>2</sup> denotes (CH<sub>2</sub>)<sub>n</sub>Het, (CH<sub>2</sub>)<sub>n</sub>Ar, or cycloalkyl having 3 to 7 C atoms,

 $R^3$ ,  $R^4$  denote H,  $(CH_2)_nCO_2R^5$ ,  $(CH_2)_nCOHet$ , CHO,  $(CH_2)_nOR^5$ ,  $(CH_2)_nHet$ ,

 $(CH_2)_nN(R^5)_2,\,CH=N\text{-OA},\,CH_2CH=N\text{-OA},\,(CH_2)_nNHOA,\,(CH_2)_nN(R^5)Het,$ 

 $(CH_2)_nCH=N-Het$ ,  $(CH_2)_nOCOR^5$ ,  $(CH_2)_nN(R^5)CH_2CH_2OR^5$ ,

 $(CH_2)_nN(R^5)CH_2CH_2OCF_3$ ,  $(CH_2)_nN(R^5)C(R^5)HCOOR^5$ ,

 $(CH_2)_nN(R^5)CH_2COHet, \ (CH_2)_nN(R^5)CH_2Het, \ (CH_2)_nN(R^5)CH_2CH_2Het, \\$ 

 $(CH_2)_nN(R^5)CH_2CH_2N(R^5)CH_2COOR^5, \\ (CH_2)_nN(R^5)CH_2CH_2N(R^5)_2, \\$ 

CH=CHCOOR<sup>5</sup>, CH=CHCH<sub>2</sub>NR<sup>5</sup>Het, CH=CHCH<sub>2</sub>N(R<sup>5</sup>)<sub>2</sub>, CH=CHCH<sub>2</sub>OR<sup>5</sup> or  $(CH_2)_nN(R^5)Ar$ ,

with the proviso that in each case one of the radicals R<sup>3</sup> or R<sup>4</sup> denotes H,

R<sup>5</sup> denotes H or A,

A denotes straight-chain or branched alkyl or alkoxy having 1 to 10 C atoms, alkenyl or alkoxyalkyl having 2 to 10 C atoms,

Het denotes a saturated, unsaturated or aromatic mono- or bicyclic heterocyclic or linear or branched organic radical containing one or more heteroatoms which is unsubstituted or mono- or polysubstituted by A and/or Hal,

Ar denotes a phenyl radical which is unsubstituted or mono- or polysubstituted by A and/or Hal, OR<sup>5</sup>, OOCR<sup>5</sup>, COOR<sup>5</sup>, CON(R<sup>5</sup>)<sub>2</sub>, CN, NO<sub>2</sub>, NH<sub>2</sub>, NHCOR<sup>5</sup>, CF<sub>3</sub> or SO<sub>2</sub>CH<sub>3</sub>,

n denotes 0, 1, 2, 3, 4 or 5,

Hal denotes F, Cl, Br or I, and

## X denotes N, or

in the case where R<sup>1</sup> denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, and/or  $\ensuremath{\mbox{R}}^2$  denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, alternatively denotes CH,

or an enantiomer, racemate, or a mixture of enantiomers thereof, or a pharmaceutically acceptable salt or solvate thereof.

- 2. (Previously Presented) A compound of formula I according to Claim 1, in which R<sup>1</sup> denotes phenyl, 2-, 3- or 4-cyanophenyl, 2-, 3- or 4-fluorophenyl, 2-, 3- or 4-methyl-, -ethyl-, -n-propyl- or -n-butylphenyl, 2,3-, 2,4-, 2,5-, 2,6-, 3,4-, 3,5- or 3,6-difluoro-, -dichloro- or -dicyanophenyl, 3,4,5trifluorophenyl, 3,4,5-trimethoxy- or -triethoxyphenyl, thiophen-2-yl or thiophen-3-yl.
- 3. (Previously Presented) A compound of formula I according to claim 1, in which R<sup>3</sup> denotes H.
- 4. (Previously Presented) A compound of formula I according to claim 1, in which  $R^4$  denotes H.
- 5. (Previously Presented) A compound of formula I according to claim 1, in which R<sup>2</sup> denotes phenyl, 2-, 3- or 4-cyanophenyl, 2-, 3or 4-fluorophenyl, 2-, 3- or 4-methyl-, -ethyl-, -n-propyl- or -n-butylphenyl, 2,3-, 2,4-, 2,5- or 2,6-difluoro- or -dicyanophenyl, thiophen-2yl or thiophen-3-yl, 2-, 3- or 4-pyridyl, 2-, 4- or 5-oxazolyl, 2-, 4- or 5-thiazolyl, quinolinyl, isoquinolinyl, 2- or 4-pyridazyl, 2-, 4- or 5-pyrimidyl, or 2- or 3-pyrazinyl.
- 6. (Previously Presented) A compound of formula I according to claim 1, in which X denotes N.
- 7. (Currently Amended) A compound of formula IA, IB, IC, ID, IE or IF

in which

R<sup>1</sup> denotes (CH<sub>2</sub>)<sub>n</sub>Het, (CH<sub>2</sub>)<sub>n</sub>Ar, or cycloalkyl having 3 to 7 C atoms,

 $R^2$  denotes  $(CH_2)_nHet$ ,  $(CH_2)_nAr$ , or cycloalkyl having 3 to 7 C atoms,

A denotes straight-chain or branched alkyl or alkoxy having 1 to 10 C atoms,

alkenyl or alkoxyalkyl having 2 to 10 C atoms,

Het denotes a saturated, unsaturated or aromatic mono- or bicyclic heterocyclic or

linear or branched organic radical containing one or more heteroatoms which

is unsubstituted or mono- or polysubstituted by A and/or Hal,

Ar denotes a phenyl radical which is unsubstituted or mono- or

polysubstituted by A and/or Hal, OR5, OOCR5, COOR5, CON(R5)2, CN,

NO<sub>2</sub>, NH<sub>2</sub>, NHCOR<sup>5</sup>, CF<sub>3</sub> or SO<sub>2</sub>CH<sub>3</sub>,

R<sup>5</sup> denotes H or A,

n denotes 0, 1, 2, 3, 4 or 5,

Hal denotes F, Cl, Br or I, and

X denotes N, or

in the case where R<sup>1</sup> denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, and/or  $\ensuremath{\mbox{R}}^2$  denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms,

alternatively denotes CH,

or a salt or solvate thereof.

8. (Previously Presented) A process for preparing a compound of formula IA according to claim 7

$$R = \begin{pmatrix} 1 & 1 & 1 \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ \end{pmatrix}$$

comprising reacting a compound of formula II

or an acid-addition salt thereof, in which

R<sup>1</sup> and X have the meanings indicated for the compound of formula IA,

with a compound of formula III

in which

A and R<sup>2</sup> have the meanings indicated for the compound of formula IA, and/or

a basic compound of formula IA is converted into one of its salts by treatment with an acid.

9. (Previously Presented) A process for preparing a compound of formula IB according to claim 7

in which R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, X and A have the meanings indicated for the compound of formula IB,

comprising reacting a compound of formula II

or an acid-addition salt thereof, in which

R<sup>1</sup> and X have the meanings indicated for the compound of formula IB,

with a compound of formula IV

in which

A and R<sup>2</sup> have the meanings indicated for the compound of formula IB, and/or

a basic compound of formula IB is converted into one of its salts by treatment with an acid.

- 10. (Previously Presented) A pharmaceutical composition comprising a compound of formula I according to claim 1 and a pharmaceutically acceptable carrier.
- 11. (Previously Presented) A method for the treatment of a disease which can be influenced by the binding of a compound of formula I to 5 HT receptors, comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 10.

- 12. (Previously Presented) A method for antagonizing a 5-HT receptor, comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 10.
- 13. (Previously Presented) A method for antagonizing a 5-HT2A receptor, comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 10.

## 14. (Cancelled)

- 15. (Previously Presented) A process for preparing a pharmaceutical composition according to claim 10, comprising mixing together a compound of formula I and a pharmaceutically acceptable carrier.
- 16. (Previously Presented) A method for the treatment of psychoses, a neurological disorder, amyotrophic lateral sclerosis, eating disorder, bulimia, anorexia nervosa, premenstrual syndrome and/or for positively influencing obsessivecompulsive disorder, comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 10.
- 17. (Previously Presented) A compound of claim 1, in which Het is one of the following groups

18. (Previously Presented) A compound of claim 7, in which Het is one of the following groups

in which

R<sup>1</sup> denotes (CH<sub>2</sub>)<sub>n</sub>Het, (CH<sub>2</sub>)<sub>n</sub>Ar, or cycloalkyl having 3 to 7 C atoms,

R<sup>2</sup> denotes (CH<sub>2</sub>)<sub>n</sub>Het, (CH<sub>2</sub>)<sub>n</sub>Ar, or cycloalkyl having 3 to 7 C atoms,

 $R^3$ ,  $R^4$  denote H,  $(CH_2)_nCO_2R^5$ ,  $(CH_2)_nCOHet$ , CHO,  $(CH_2)_nOR^5$ ,  $(CH_2)_nHet$ ,

 $(CH_2)_nN(R^5)_2$ , CH=N-OA,  $CH_2CH=N-OA$ ,  $(CH_2)_nNHOA$ ,  $(CH_2)_nN(R^5)Het$ ,

(CH<sub>2</sub>)<sub>n</sub>CH=N-Het, (CH<sub>2</sub>)<sub>n</sub>OCOR<sup>5</sup>, (CH<sub>2</sub>)<sub>n</sub>N(R<sup>5</sup>)CH<sub>2</sub>CH<sub>2</sub>OR<sup>5</sup>,

 $(CH_2)_nN(R^5)CH_2CH_2OCF_3$ ,  $(CH_2)_nN(R^5)C(R^5)HCOOR^5$ ,

 $(CH_2)_nN(R^5)CH_2COHet, (CH_2)_nN(R^5)CH_2Het, (CH_2)_nN(R^5)CH_2CH_2Het,$ 

 $(CH_2)_nN(R^5)CH_2CH_2N(R^5)CH_2COOR^5, \ (CH_2)_nN(R^5)CH_2CH_2N(R^5)_2, \\$ 

CH=CHCOOR<sup>5</sup>, CH=CHCH<sub>2</sub>NR<sup>5</sup>Het, CH=CHCH<sub>2</sub>N(R<sup>5</sup>)<sub>2</sub>, CH=CHCH<sub>2</sub>OR<sup>5</sup> or

 $(CH_2)_nN(R^5)Ar,$  with the proviso that in each case one of the radicals  $R^3$  or  $R^4$ 

denotes H,

R<sup>5</sup> denotes H or A,

A denotes straight-chain or branched alkyl or alkoxy having 1 to 10 C atoms,

alkenyl or alkoxyalkyl having 2 to 10 C atoms,

Het denotes a saturated, unsaturated or aromatic mono- or bicyclic heterocyclic or

linear or branched organic radical containing one or more heteroatoms which

is unsubstituted or mono- or polysubstituted by A and/or Hal,

Ar denotes a phenyl radical which is unsubstituted or mono- or

polysubstituted by A and/or Hal, OR<sup>5</sup>, OOCR<sup>5</sup>, COOR<sup>5</sup>, CON(R<sup>5</sup>)<sub>2</sub>, CN,

NO<sub>2</sub>, NH<sub>2</sub>, NHCOR<sup>5</sup>, CF<sub>3</sub> or SO<sub>2</sub>CH<sub>3</sub>,

n denotes 0, 1, 2, 3, 4 or 5,

Hal denotes F, Cl, Br or I, and

X denotes N, or

in the case where R<sup>1</sup> denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, and/or  $\ensuremath{\mbox{R}}^2$ 

in which R denotes H or an alkyl group having 1 to 6 C atoms, alternatively denotes CH,

or a pharmaceutically acceptable salt thereof.

20. (Previously Presented) A compound of claim 19, in which Het is one of the following groups

21. (Previously Presented) A compound of formula IA, IB, IC, ID, IE or IF

in which

 $R^1$  denotes  $(CH_2)_nHet$ ,  $(CH_2)_nAr$ , or cycloalkyl having 3 to 7 C atoms,

 $R^2$  denotes  $(CH_2)_nHet$ ,  $(CH_2)_nAr$ , or cycloalkyl having 3 to 7 C atoms,

A denotes straight-chain or branched alkyl or alkoxy having 1 to 10 C atoms,

alkenyl or alkoxyalkyl having 2 to 10 C atoms,

Het denotes a saturated, unsaturated or aromatic mono- or bicyclic heterocyclic or

linear or branched organic radical containing one or more heteroatoms which

is unsubstituted or mono- or polysubstituted by A and/or Hal,

Ar denotes a phenyl radical which is unsubstituted or mono- or

polysubstituted by A and/or Hal, OR5, OOCR5, COOR5, CON(R5)2, CN,

NO<sub>2</sub>, NH<sub>2</sub>, NHCOR<sup>5</sup>, CF<sub>3</sub> or SO<sub>2</sub>CH<sub>3</sub>,

R<sup>5</sup> denotes H or A,

n denotes 0, 1, 2, 3, 4 or 5,

Hal denotes F, Cl, Br or I, and

X denotes N, or

in the case where R<sup>1</sup> denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, and/or  $\ensuremath{\mbox{R}^2}$ 

in which R denotes H or an alkyl group having 1 to 6 C atoms,

alternatively denotes CH, or a pharmaceutically acceptable salt thereof.

22. (Previously Presented) A compound of claim 21, in which Het is one of the following groups

23. (Previously Presented) A compound of claim 1, in which

R<sup>1</sup> denotes Het or Ar,

R<sup>2</sup> denotes Het or Ar,

 $R^3, R^4 \qquad \text{denote } H, (CH_2)_nCO_2R^5, CH=N\text{-OA}, CH_2CH=N\text{-OA}, (CH_2)_nNHOA, \\ (CH_2)_nN(R^5)Het, (CH_2)_nCH=N\text{-Het}, (CH_2)_nOCOR^5, (CH_2)_nN(R^5)CH_2CH_2OR^5, \\ (CH_2)_nN(R^5)CH_2CH_2OCF_3, (CH_2)_nN(R^5)C(R^5)HCOOR^5, \\ (CH_2)_nN(R^5)CH_2COHet, (CH_2)_nN(R^5)CH_2Het, (CH_2)_nN(R^5)CH_2CH_2Het, \\ (CH_2)_nN(R^5)CH_2CH_2N(R^5)CH_2COOR^5, (CH_2)_nN(R^5)CH_2CH_2N(R^5)_2, \\ CH=CHCOOR^5, CH=CHCH_2NR^5Het, CH=CHCH_2N(R^5)_2, CH=CHCH_2OR^5 \text{ or } (CH_2)_nN(R^5)Ar, \text{ with the proviso that in each case one of the radicals } R^3 \text{ or } R^4 \\ \text{denotes } H.$ 

R<sup>5</sup> denotes H or A,

A denotes straight-chain or branched alkyl or alkoxy having 1 to 10 C atoms,

alkenyl or alkoxyalkyl having 2 to 10 C atoms,

Het denotes a saturated, unsaturated or aromatic mono- or bicyclic heterocyclic or linear or branched organic radical containing one or more heteroatoms which

is unsubstituted or mono- or polysubstituted by A and/or Hal,

Ar denotes a phenyl radical which is unsubstituted or mono- or polysubstituted by A and/or Hal, OR<sup>5</sup>, OOCR<sup>5</sup>, COOR<sup>5</sup>, CON(R<sup>5</sup>)<sub>2</sub>, CN,

NO<sub>2</sub>, NH<sub>2</sub>, NHCOR<sup>5</sup>, CF<sub>3</sub> or SO<sub>2</sub>CH<sub>3</sub>,

n denotes 0, 1, 2 or 3,

Hal denotes F, Cl, Br or I, and

X denotes N, or

in the case where R<sup>1</sup> denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, and/or  $R^2$  denotes

in which R denotes H or an alkyl group having 1 to 6 C atoms, alternatively denotes CH.

24. (Previously Presented) A compound of claim 21, in which Het is one of the following groups

## 25. (Cancelled)

- 26. (Cancelled)
- 27. (Currently Amended) A method for administering a pharmaceutical composition according to claim 10, comprising providing an effective amount of said pharmaceutical composition to a subject in need thereof.